Investigating Incentives for Students to Provide Peer Feedback in a Semi-Open Online Course: An Experimental Study

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ABSTRACT
In open online learning courses such as MOOCs, peer feedback has been regarded as a powerful method to give elaborated feedback on weekly assignments. Yet motivating students to invest effort in peer feedback on top of existing work load is difficult. Students might give insufficient feedback or do not give feedback at all. Students' hesitation to provide feedback might be related to the lack of visibility of spent effort during feedback provision. Alternatively, students might provide less feedback due to lack of perceived benefits. In this study, we investigated the effect of two incentive types on peer feedback provision on weekly assignments. In total, 91 students enrolled in a semi-open online course were announced to receive either (1) a peer rating on their feedback or (2) open access to assignment solutions or (3) no incentive. Results indicate that the incentive type did not affect feedback provision in general, yet it had an impact on the content of the feedback. Students receiving (1) a rating-feedback incentive wrote longer and more specific feedback in comparison to students receiving (2) an information-access incentive or (3) no incentive. Results contribute to findings from peer assessment research that students are more likely to provide detailed feedback if students feel that feedback is attended to. Furthermore, results inform teachers and practitioners on how to encourage students to provide peer feedback in open learning environments.

Categories and Subject Descriptors
K.3.1 [**Computer Uses in Education**]: *Collaborative learning, Distance learning*

General Terms
Measurement, Documentation, Performance, Design, Reliability, Experimentation, Human Factors

Keywords
MOOC, peer feedback, peer assessment, incentive

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1. INTRODUCTION
MOOCs (Massive Open Online Courses) offer instructional materials that allow learners to interact time- and location independently. Typically, students with a variety of educational and cultural backgrounds participate in these courses. This heterogeneity of participants, on the one hand, enables people with different interests and age levels to engage in life-long learning. On the other hand, the heterogeneity poses challenges to provide feedback taking into account the learners' needs and skills. In MOOCs, there is a large gap between participants who succeed in passing the assignments and students who fail to succeed after the first weeks. The high drop-out rates in MOOCs confirm these observations [1, 2].

Most MOOCs offered by Coursera, Udacity and EDx were situated in Computer Science and Engineering. In these areas, especially in programming, weekly assignments often consist of items using multiple choice formats. Students may receive feedback using automated scoring, providing the correct response. Recently, more and more courses in humanities and social sciences are offered. In these fields, quizzes and assignments are often based on open response formats. For these formats, providing feedback by offering the correct response solution is not sufficient or possible [3], since there might not be a single correct response. In this case, elaborative feedback is necessary [4]. For the instructor, it is often too time-consuming to provide elaborated feedback, especially if it needs to be tailored to individual needs of a heterogeneous group of learners. Peer feedback has been found to be a powerful method to support learning, generating elaborated as well as individualized feedback in online learning courses with a large number of participants with different skill-levels [5, 6]. Yet, it is difficult to encourage learners to provide peer feedback.

The aim of the present study is to identify incentives for students to give peer feedback in online learning courses such as MOOCs. We tested the effects of both incentive types on students' feedback behavior in an experimental field study in the context of a University online learning course. Though there were differences concerning number of participants, participants' backgrounds and the learning environment, the instructional materials and interaction possibilities were comparable to MOOCs. We think that the present results are highly relevant for designing optimal learning conditions in MOOCs.

2. BACKGROUND

The acronym MOOC stands for Massive Open Online Courses. The attributes in this name describe central features of this type of learning environment. MOOCs are open because people can participate irrespective of the institution they belong to, their experiences, skills and their age level. Open access results in large (massive) numbers of participants. Because MOOCs are offered online, participants can work on assignments and listen to lectures 24 hours a day independent from their physical location [7]. MOOCs are typically offered in open learning environments such as Coursera, Udacity and EDx. Participants can access core elements of MOOCs including instructional videos, a discussion forum, and complete quizzes and assignments. Instructional videos typically last between 6 and 9 minutes. Depending on language proficiency and complexity of information, they can be played, paused and replayed at different speeds. Social interaction takes place in the discussion forum. Participants can ask questions and look for information from peers to receive help to solve the assignments. Quizzes serve as self-assessment tools but can also be used for partial assessment in the course. The main assessment tools are weekly assignments. These assignments either consist of multiple-choice format or open format items where only a single sentence response is required.

Currently, there is a growing interest in MOOCs. One reason is the large number of participants that are registered. On the one hand, the massive participation has the potential that a diverse audience of enrolled learners with various backgrounds and skill levels can interact, exchange information and help each other. On the other hand, the diversity of learners requires guidance and support tailored to the needs of each individual. Feedback can help to guide learners and it is an important factor in supporting learning in open online courses [6].

Formative feedback in the sense of an assessment during the learning process has become a strong focus to involve students as active learners [5]. By providing formative feedback, the learner can reflect on his or her current learning state and therefore self-assess his or her learning progress. Formative Feedback can be provided in form of outcome-based feedback types and elaborated feedback.

Outcome-based feedback types include information indicating if the response is correct or not. Furthermore it may include the correct response. Outcome-based feedback types may help the learner to gain an understanding of what the correct answer looks like. In other words, providing the correct response will result in knowing the correct answer for exactly this question. However, for self-assessment purposes, they might be insufficient to foster deep reflection and self-regulated learning. In the context of self-regulated learning, the purpose of feedback is to facilitate reflective thinking and revision activities [4].

Elaborated feedback includes not the correct response but targets cognitive aspects focusing on the content, discussing problems, making suggestions for improvement. In contrast to outcome-based feedback, elaborated feedback has an evaluative nature and includes positive or critical aspects without directly targeting the content by identifying problems or making suggestions. Positive aspects include praise whereas critical aspects include shortcomings of the assignment solution. Because of its evaluative nature, elaborated feedback seems to be more appropriate to support learners in self-regulated learning and long-term effects.

Traditionally feedback is given by instructors. But providing elaborated feedback that is tailored to the needs of the individual is very time-consuming. It can be hardly just in time if feedback needs to be given to a large number of participants. In MOOCs providing elaborated feedback through an instructor is difficult to realize [3]. Peer feedback has been found to be an effective alternative to feedback from instructors [8]. Peer feedback has been assumed to facilitate learning in various learning settings [9]. In recent years, peer feedback research has been focusing less on the role of assessment and more on peer feedback as a form of structuring collaborative learning [10]. The typical activities in peer feedback are task performance, feedback provision, feedback reception and revision [10]. First, a product is created by the assessee (Task Performance). Next, one or multiple assessors provide feedback (Feedback Provision). In case of elaborated feedback, the assessor uses specific criteria or categories to evaluate the product and to provide feedback. The assessee can use the feedback to improve the product (Feedback Reception). Based on feedback received, the assessee has the possibility to improve the product (Revision).

Advocates of peer assessment see a positive effect on student achievement and attitudes [11]. Though peer assessment has been found to be effective, students' motivation to give feedback to peers is often limited. Assessors might provide only short feedback that does not include helpful information. Furthermore, feedback might lack specificity. Feedback specificity is referred to as the level of information that is presented in feedback messages [12]. Encouraging students to write specific feedback is important because students perceive feedback as more positive if it contains specific information. Furthermore, feedback lacking specificity may be perceived as useless and frustrating [13, 14].

One reason for a student's low motivation of providing peer feedback might be related to the value that is placed on invested effort [15]. Typically, he or she will receive no information whether feedback was perceived as valuable or not. Furthermore, effort invested during feedback provision will stay invisible. If results of spent effort are not visible, less effort is spent on providing peer feedback [16]. By making their effort visible and by showing that their feedback is valuable for their peers could serve as an incentive for students to provide feedback. We believe that this possibility is important and interesting to explore.

Another reason why students have low motivation to provide feedback might be related to missing external incentives. During feedback provision, it is not clear to the student what he or she will get out of it (e.g., getting extra credits). In the research area of knowledge management, studies showed that external incentives encourage users to share knowledge [17, 18]. A possible incentive for learners in an online course is to have access to further course-relevant information.

Against this background, the present study explores two incentive types as a possible motivator for students to provide peer feedback in an online course: (1) increasing the visibility of how given feedback is valued by feedback receivers and (2) offering an external incentive by providing access to assignment solutions.

3. THE STUDY

3.1 Purpose of the Study and Hypotheses

The purpose of the study is to investigate incentives for students to provide (meaningful) peer feedback in an online learning course using core components of MOOCs. First, we assume that students who expect to receive a rating on their feedback (rating-feedback condition) will be more motivated to provide feedback:

H1: The rating-feedback incentive will encourage more students to provide peer feedback than no incentive.

H2: The rating-feedback incentive will motivate students to give a longer feedback in comparison to no incentive.

Concerning the feedback content, we hypothesize:

H3: Students receiving a rating-feedback incentive will mention more evaluative aspects in their feedback including (a) more positive aspects and (b) more critical aspects than students receiving no incentive.

H4: Students receiving the rating-feedback incentive will write more specific feedback than students receiving no incentive.

H5: Students receiving the rating-feedback incentive will address more of the given key questions than students receiving no incentive.

Furthermore, allowing information access to assignment solutions (information-access condition) might serve as an incentive as well. We hypothesize that receiving access to other assignment solutions will increase the provision of peer feedback:

H6: The information-access incentive will encourage more students to provide peer feedback in comparison to getting no incentive.

H7: The information-access will motivate students to give a longer feedback in comparison to no incentive.

We moreover expect effects of the information-access incentive on the content of peer feedback:

H8: Students receiving information-access incentive will mention more evaluative aspects in their feedback including (a) more positive aspects and (b) more critical aspects than students receiving no incentive**.**

H9: Students receiving the information-access incentive will write more specific feedback than students receiving no incentive.

H10: Students receiving the information-access incentive will address more of the given key questions than students' receiving no incentive.

Given the two types of incentives focused here, it seems pivotal to ask which of these might affect the length and content of peer feedback more:

RQ1: Do the rating-feedback incentive and the information-access incentive differ with regard to their effect on length and content of peer feedback?

3.2 Method

3.2.1 Participants

Altogether, 162 students enrolled in a University-level online-learning course and 95 participated in the virtual collaboration assignment which is analyzed in the present work. 43 of them were female, 52 were male. The mean age was 23.40 years (*SD* = 3.68; ranging from 19 to 50; please note that four of these students did not state their age in an accompanying survey). Participants were students from two German universities studying toward a Bachelor or Master degree in diverse fields such as engineering, business administration, education, cultural or media studies. In contrast to MOOCs offered by Coursera, Udacity and EDX, participants had similar academic and age levels.

3.2.2 Online Learning Course and Materials

The course platform which was embedded in the Learning Management System *moodle* was conceptualized and developed by the student project *MOOCaware* realized by the research group Collide (Collaborative Learning in Intelligent Distributed Environments) at the University of Duisburg-Essen. The course was promoted as a semi-open online learning course as part of the supplementary course program (studium liberale in the German Bachelor's program). Participants received credits for the course by passing the final assignment at the end of the semester. Over the course of eleven weeks, students learned about psychological foundations of computer-mediated communication with a special focus on learning and teaching. In every week of the course, one instructional video between 1.5 and 11.5 minutes was accessible. In the instructional video, a researcher introduced the topic of the week and explained the requirements of the weekly assignment. Assignments were posted in the beginning of the week and students had 7 days to complete them. Group assignments were completed in teams of 2 to 4 students.

The study was conducted in week 8 of the course focusing on the topic "Brainstorming and Idea Generation in Groups". One objective was to demonstrate understanding of optimal conditions for brainstorming. The group assignment consisted of the following tasks:

1. How can we measure effectiveness of brainstorming? In your group, develop three goals of brainstorming. Furthermore, identify three methods to achieve these goals.
2. In the following you will find a hypothetical sequence of ideas for the topic, "How can we live a more healthy life":

"Jogging- Using the stairway- gymnastics- swimming- going for a walk- vitamins- nuts- mediation"

Please answer the following questions:

a) How long is the longest cluster length?
b) What is the number of clusters?
c) How many category changes are included?
d) How many trains of thoughts are included?

After the teams submitted their results, they were asked to review the work of another team. Students were randomly assigned to the role of the assessee. The task of an assessee was to provide feedback to another group's assignment. Each assessee was asked to rate the assignment by providing a grade. Grading the others' work was mandatory in order to complete this weekly assignment. Furthermore, assessees were asked to give elaborated feedback, meaning that assessees provided feedback in a free-text field. Providing elaborated feedback was optionally. The incentives for giving elaborated feedback were presented above the free-text field. In order to structure their feedback comment, assessees received a document with guiding questions that could be addressed. The whole process was anonymous. Thus, neither was the group member's identity revealed to the assessee nor was the assessee's identity displayed to the group. Assessees could not read the feedback (they received concerning their own assignment) before they submitted their feedback.

3.3 Study Design

For the section of elaborated peer feedback, students were randomly assigned to one of the following conditions. In the *rating-feedback condition*, each student received the notification that after peer feedback provision, a peer (one author of the assignment solution that should be reviewed) will rate the feedback and very good feedback comments will be posted online (visible to all course participants). In the *information-access condition*, each student was notified that after feedback provision full access to all assignment solutions would be available. In the *control condition* no incentive for feedback provision was given. We assessed the effect of incentives on (1) feedback provision (yes or no) and (2) the content of feedback.

3.4 Analysis of peer feedback and coding scheme

Besides coding (a) whether feedback was given or not, we quantified the content of peer feedback based on a deductively developed coding scheme which consisted of five categories: (b) The number of words, (c) how many positive and critical aspects are mentioned, (d) how specific the feedback is and (e) to what extent the guiding questions were used to structure the feedback. One rater coded each feedback comment based on these five categories. A second rater coded a random sample of 10% of the feedback material. Based on both ratings, interrater reliability was calculated using Krippendorff's alpha [19]. The alpha values are reported for each category.

a) Feedback yes or no

First, we coded whether students who took part in this collaboration assignment gave peer feedback or not. Since this category was coded based on whether there was text in the feedback comment or not, we did not calculate interrater reliability.

b) Length of feedback

The length of peer feedback was coded based on the number of words each student wrote in his/her feedback comment.

Content of Feedback:

c) Number of positive & critical aspects mentioned

Furthermore, we assessed the valence of peer feedback comments, coding how many positive and how many critical aspects were mentioned in relation to the group work students were asked to review. In this regard, we did not code the number of positive or critical expressions (such as "very good" "excellent" or "bad" "fuzzy"), but the number of content-related aspects such as "You answered the question very well (positive aspect 1) and used examples (positive aspect 2). Moreover, your work is very comprehensible (positive aspect 3). However, you should have tied your solution more to the literature (critical aspect 1)". Thus, the context of each aspect was important to determine its valence. Interrater reliability here was Krippendorff's α = .90 for positive aspects and Krippendorff's α = .97 for critical aspects.

d) Level of specificity

The quality of peer feedback is also based on how specifically the assessee relates to the content of group work he or she reviews. Therefore, we coded the feedback's level of specificity on a scale from 1 (very unspecific) to 7 (very specific). Specificity ranged from superficial statements such as "As far as I can see, the group's results are right" (coded as 1), over a medium level relating to isolated content aspects (e.g., "I think you should have elaborated more on how objectives and methods correspond to each other"; coded as 4) to a high specificity level referring to each task balancing good and bad aspects ("Ad task 1. All criteria, objectives and methods are mentioned. However, the link to literature is missing. For instance, this is the case for the criteria mentioned by Nijstad, Diehl and Stroebe (2003). Here, length of cluster and number of clusters should have been named. Ad task 2. […]"; coded as 7). For level of specificity, Krippendorff's α was .93.

e) Number of answers related to guiding questions

In order to help students to organize their peer feedback, they were given specific key questions they could relate to in their feedback comment. The four key questions were "What do you like about this solution?", "What would you improve?", "Compare these results to your own results. Are there any differences?" and "How would you explain differences and similarities between the others' solution and yours?". To specify the richness of content of each feedback, we counted how many of these guiding questions students related to. Thus, 0 in this category represented that none of those questions were answered, while 4 expressed that the feedback referred to all four questions. Interrater reliability in terms of Krippendorff's α was .95.

Furthermore, we considered how students graded the submission of their peers. Before giving elaborated feedback, students were asked to rate the submission in general on a scale from (1) as the most negative and (5) as the most positive grade.

4. RESULTS

In total, 91 students gave feedback in form of grades (which was mandatory). Of these 91, 59 students (63.74%) provided elaborated feedback (which was optional).
First, in order to test *H1* and *H6*, we looked at whether students did or did not provide elaborated feedback and whether this pattern was affected by the incentive type they were given (see table 1). We computed a Pearson's chi-square test, which did not reveal any significant difference across all conditions (χ^2 (2) = 2.38, p = .304). Therefore, *H1* and *H6* have to be rejected.

Table 1: Distribution of Feedback Comments in all Three Conditions

		Incentive Type			Total
		Helpfulness of feedback	Access to information	No Incentives	
Feedback	Number	20	16	23	59
	%	64,5%	55,2%	74,2%	
No Feedback	Number	11	13	8	32
	%	35,5%	44,8%	25,8%	
Total		31	29	31	

Second, we were interested in the length and content of feedback. We focused on different content criteria of the feedback given by the students (please see table 2 in the appendix for means, standard deviations and zero-order correlations of content variables).

We calculated a multivariate analysis of variance (MANOVA) with the conditions (rating-feedback, information-access, no-incentive) as fixed factor and the number of words, number of positive aspects, number of critical aspects, level of specificity and number of questions that were answered as dependent variables (see table 3 in the appendix for further values). For pairwise comparisons, a post-hoc test (LSD method) was used. Overall, Wilk's statistics did not reveal a significant multivariate effect of incentive type ($\lambda = .80$, $F(10,104) = 1.25$, $p = .27$).

With regard to the length of feedback, we predicted that getting a rating of their feedback (*H2*) and getting access to further information (*H7*) would encourage students to give a longer feedback than receiving no incentive. MANOVA results revealed a significant effect of incentive type on the length of feedback ($F(2,56) = 4.00$, $p = .024$, $\eta_p^2 = .13$). Students who were told that their feedback would be rated by their peers gave a significantly longer feedback than students who were not encouraged by any incentive ($p = .008$, $SE = 24.57$). The pairwise comparison between the information-access incentive and no incentive revealed no significant differences. While *H2* was supported, *H7* needs to be rejected. Regarding *RQ1*, the pairwise comparison of the rating-feedback incentive and information-access incentive revealed a marginally significant superiority of the rating-feedback incentive ($p = .062$, $SE = 26.95$)

According to *H3* and *H8*, the rating-feedback incentive and the information-access were expected to encourage students to mention (a) more positive aspects and (b) more critical aspects than no incentive. MANOVA results revealed no significant effect of incentive type on number of positive aspects ($F(2,56) = .31$, $p = .736$), though a significant effect on the number of critical aspects was found ($F(2,56) = 4.07$, $p = .022$, $\eta_p^2 = .13$). Pairwise comparisons showed that the rating-feedback incentive encouraged students to mention more critical aspects in their feedback than no incentive ($p = .008$, $SE = .54$). The effects of the information-access incentive and no incentive did not differ with regard to the number of critical aspects. Hence, these results do not support *H3a* and *H8* but *H3b*. Nonetheless, pairwise comparisons also showed that the rating-feedback incentive motivated student to elaborate on more critical aspects than the information-access incentive ($p = .049$, $SE = .60$).

With *H4* and *H9*, we assumed that the rating-feedback incentive and the information-access incentive would motivate students to give a more specific feedback than no incentive. In this regard, MANOVA results revealed a significant effect of incentive type on the specificity of feedback ($F(2,56) = 3.51$, $p = .037$, $\eta_p^2 = .11$). In detail, students who were told to receive ratings on their feedback gave a more specific feedback than students with no incentive ($p = .021$, $SE = .52$) as well as students with the information-access incentive ($p = .032$, $SE = .57$). Again, pairwise comparisons showed no difference between the information-access incentive and no incentive. While *H4* was supported, *H9* was not.

H5 and *H10* predicted that students with a rating-feedback incentive and an information-access incentive would address more of the given guiding questions than students receiving no incentive. The MANOVA revealed a significant effect of incentive type ($F(2,56) = 3.21$, $p = .048$, $\eta_p^2 = .10$). Pairwise comparisons showed that the rating-feedback incentive was superior to no incentive ($p = .024$, $SE = .35$) and the information-access incentive ($p = .048$, $SE = .38$). The information-access incentive, however, was not significantly more effective than no incentive. These results support *H5* but not *H10*.

5. DISCUSSION

The present study examined the effects of different incentive types on peer feedback in a semi-open online course. Students were assigned to two different incentive types, (1) a rating-feedback incentive, (2) an information-access incentive and (3) no incentive.

First we investigated whether incentives affected students' feedback provision in general. Contrary to our expectations, no differences for feedback provision were found. In other words, students who received one of the two incentives did not provide more (or less) feedback than students receiving no incentive. In this regard, one might speculate that other factors such as the general satisfaction with this assignment, length or complexity of the work on which feedback should be provided, could influence the general willingness to give elaborated feedback. Since a general willingness to provide feedback is essential for effective peer feedback, future research should explore which variables encourage students to provide elaborated feedback to peers.

Though feedback provision was not affected by our incentives, we found effects on feedback length and content. The rating-feedback incentive motivated students to give a longer feedback than receiving no incentive. When students were told that the author of the reviewed solution will pay attention to the feedback and will rate it, they invested more effort than students who did not expect to receive any rating. It seems that the mere expectation of receiving a rating of the feedback resulted in a greater allocation of time for the task to provide feedback. In line with work by Chen and Lu [16], it appears that prospect of others acknowledging the invested effort of the given feedback encouraged students to invest more effort and time. Correlational analyses (see table 2) show that feedback length is highly associated with the specificity and richness of content. So, length and content richness of feedback seem to go hand in hand to assure a good rating of the feedback receiver.

It is striking that students receiving the rating-incentive focused their feedback on critical aspects rather than positive aspects. According to research on formative feedback, giving critical feedback is more effective than praise [20]. Correlational analyses additionally indicate that the lower students graded the assignment solution, the higher was the number of critical aspects (but not of positive aspects) that were mentioned in the feedback (see table 2). Hence, students aspire to explain their criticism, especially knowing that their feedback is going to be evaluated by others.

The rating-feedback incentive additionally provoked a more meaningful feedback with regard to specificity and richness (in terms of how many guiding questions have been answered in the feedback). These results suggest that the prospect of being rated by others encourages students to elaborate more on the content and on diverse aspects of the assignment.

In contrast to the rating feedback incentive, the information-access incentive did not seem to affect students' feedback length and content. In other words, the expectation of access to course-relevant information did not encourage students more than no incentive. In the case of our study, students were offered access to assignment solutions of other groups. It is possible that this external incentive was not attractive enough, because student assignments were not graded. Future studies need to explore the value of information-access more systematically to find out which information is most valuable for the students.

With regard to practical implications, these results reveal that peer ratings of peer feedback is really appreciated by learners and that the prospect of being rated by others could be an effective stimulus to initiate meaningful peer feedback loops. We cannot make inferences whether this procedure can work every week for a longer period of time. One might speculate that the feedback students receive in week 1 will influence the feedback they provide in week 2. Thus, longitudinal research is needed in order to test how feedback loops develop over time.

This study certainly also has limitations: The feedback was provided to group assignments. It is unclear how incentives might have worked differently if students provided feedback to individual assignments. Future research should explore the effectiveness of incentives in other learning settings with different group constellations (larger, smaller, more diverse groups). Furthermore, the rating-feedback incentive might have mixed up two kinds of incentives, since participants were told (a) to be rated by others and (b) that the more helpful feedback comments are going to be published (without any name references) on the course platform. In this case, we cannot make any judgment which of the factors (or even the mixture) led to the increased feedback length and specificity.

Given the present results, we nonetheless can conclude that the knowledge that one's feedback will be attended to and rated by one's peers will encourage students to spend more effort on peer feedback.

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Appendix

Table 2: Means, Standard Deviations and Zero-Order Correlations of Content Variables Related to the Feedback (N = 59)

	M (SD)	1.	2.	3.	4.	5.	6.
1. Grade	4.12 (0.75)	-					
2. Number of words	82.66 (84.40)	-.386**	-				
3. Positive aspects	2.98 (1.95)	-.141	.373**	-			
4. Critical aspects	1.54 (1.87)	-.394**	.657**	.012	-		
5. Specificity	2.93 (1.77)	-.334**	.839**	.299*	.585**	-	
6. Questions answered	2.37 (1.19)	-.148	.492**	.181	.288*	.562**	-

** p < .01
* p < .05

Table 3: Means and Standard Deviations of Length and Content Variables in all Three Conditions (N = 59)

	Incentive Type					
	Helpfulness of Feedback		*Access to Information*		*No Incentive*	
	M	*SD*	*M*	*SD*	*M*	*SD*
Number of words (length)	122.95	110.45	71.56	75.04	55.35	45.39
Positive aspects	3.25	2.53	2.75	1.81	2.91	1.47
Critical aspects	2.45	2.28	1.25	1.53	0.96	1.40
Specificity	3.75	1.80	2.50	1.55	2.52	1.70
Questions answered	2.90	1.12	2.13	1.15	2.09	1.16